

Using Science to Inform Decisions About Water in Louisiana

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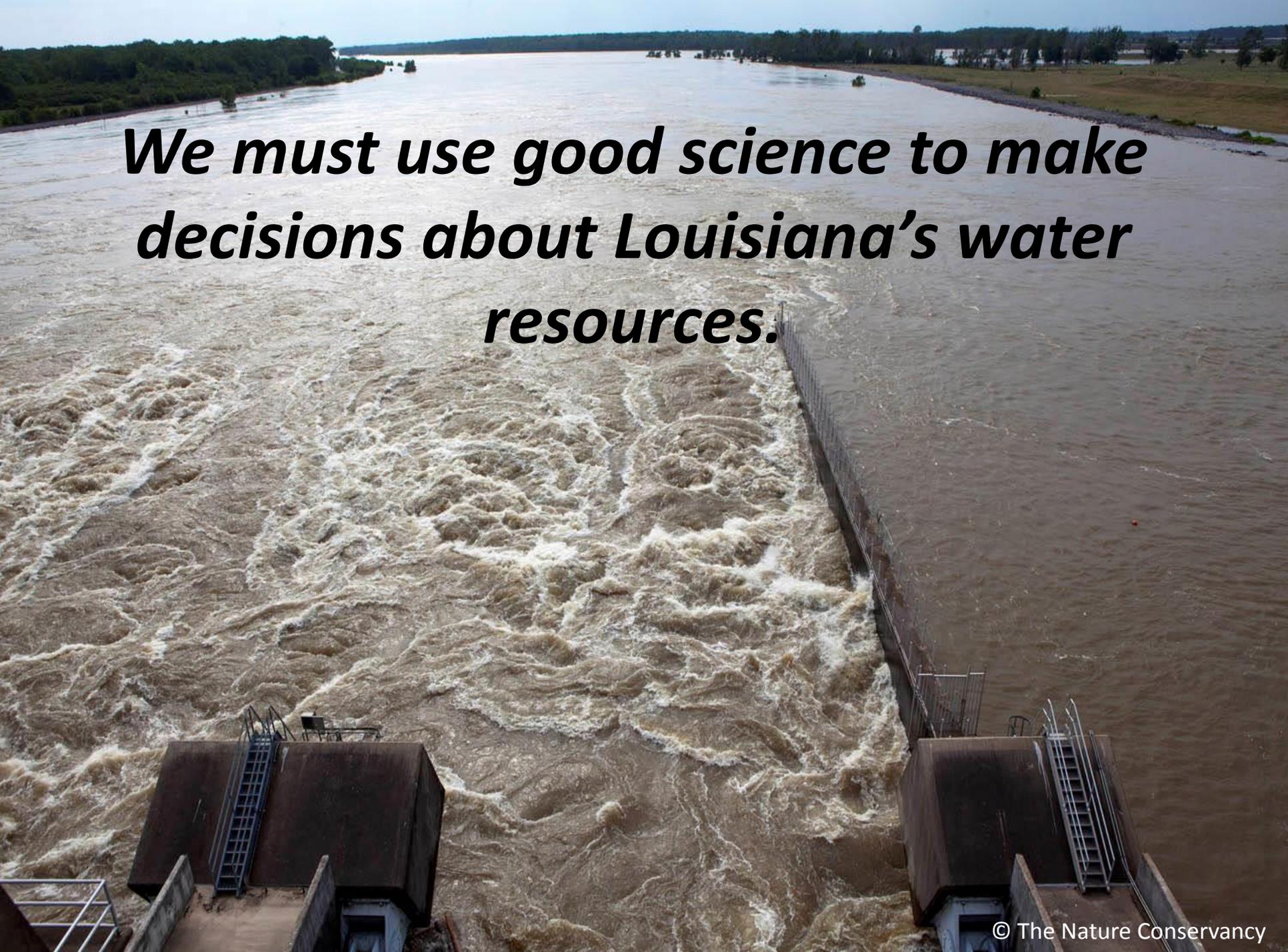
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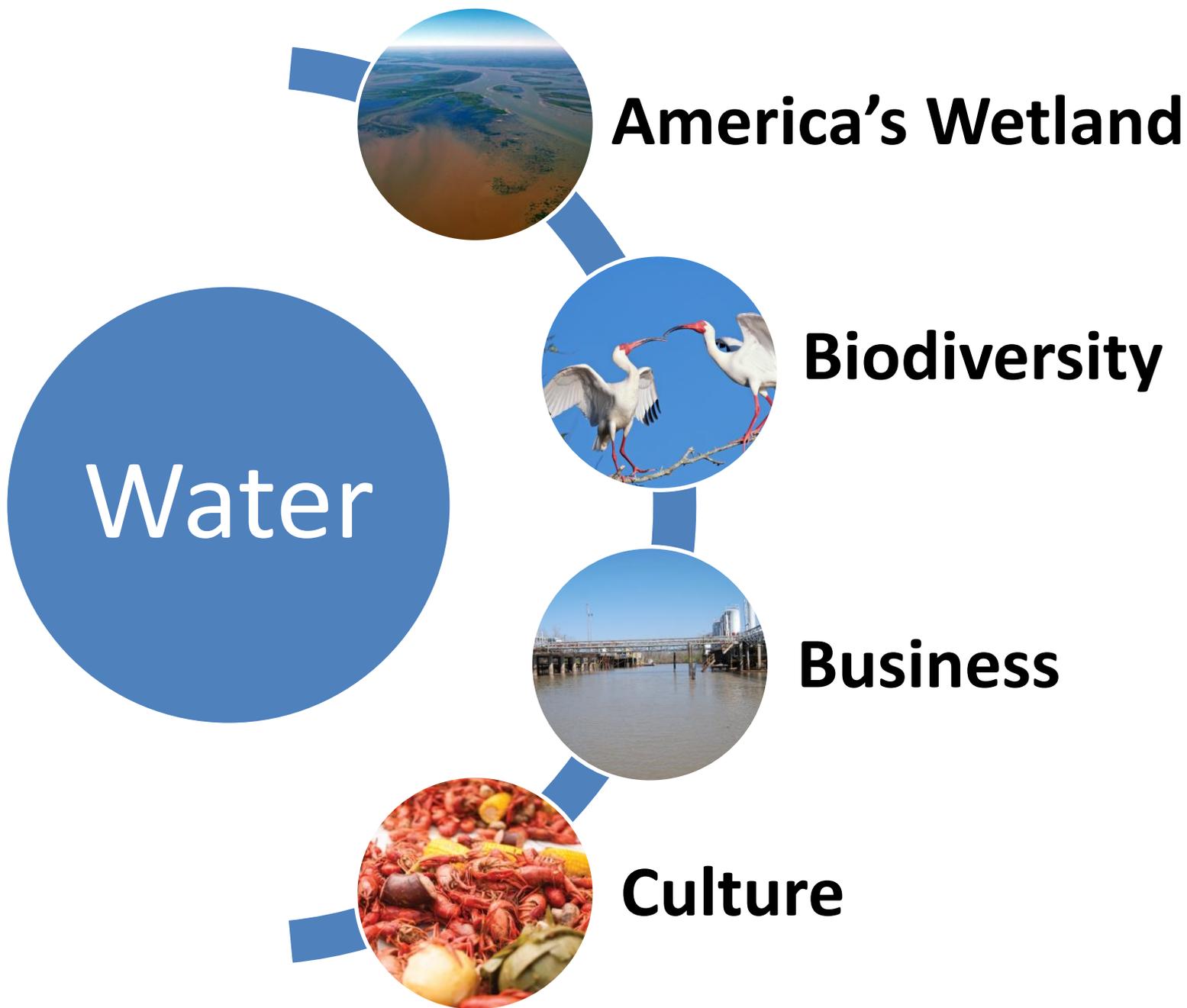


A wide river with turbulent, brown water flowing through a dam structure, with a large spillway in the foreground. The water is churning and white with foam as it passes through the spillway. The river extends into the distance, flanked by green trees and a clear sky.

We must use good science to make decisions about Louisiana's water resources.

We don't have limitless resources.





freshwaternetwork.org



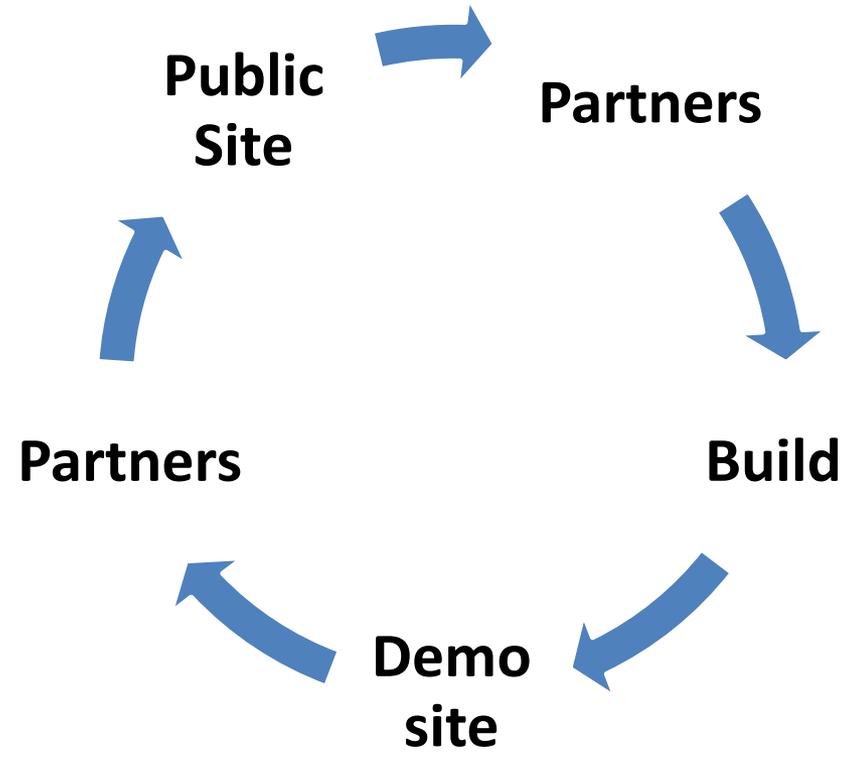
The Freshwater Network spans across states, regions, and local jurisdictions and can be applied globally. The green hatching show states currently in the Network. **Click on the point markers on the map or navigate through the list of states below to visit the Freshwater Network web maps.** Keep visiting to watch the network grow as more states join!

FRESHWATER NETWORK

Welcome to the Freshwater Network. The goal of this network is to provide scientific information to support decision making about freshwater resources. The network is comprised of a number of statewide examinations of the status and trends of freshwater resources, all displayed in an online mapping system that contains both decision-support capability and access to all data sets. Users will find a wealth of information about water resources and watersheds, as well as robust analyses and modeling, showing watershed health and landscape integrity, water quality, surface flow, biological health, and groundwater resources. The Network also allows users to investigate across states, when watersheds don't follow political boundaries, and into the coastal zone to understand the connectivity of our freshwater and coastal resources. We hope that users find the Freshwater Network both a powerful and user-friendly resource for meeting their needs and ensuring a healthy supply of clean water for nature and people.



Process





Watershed Health



Watershed Health



Surface Flow



Watershed Health



Surface Flow



Groundwater



Watershed Health



Surface Flow

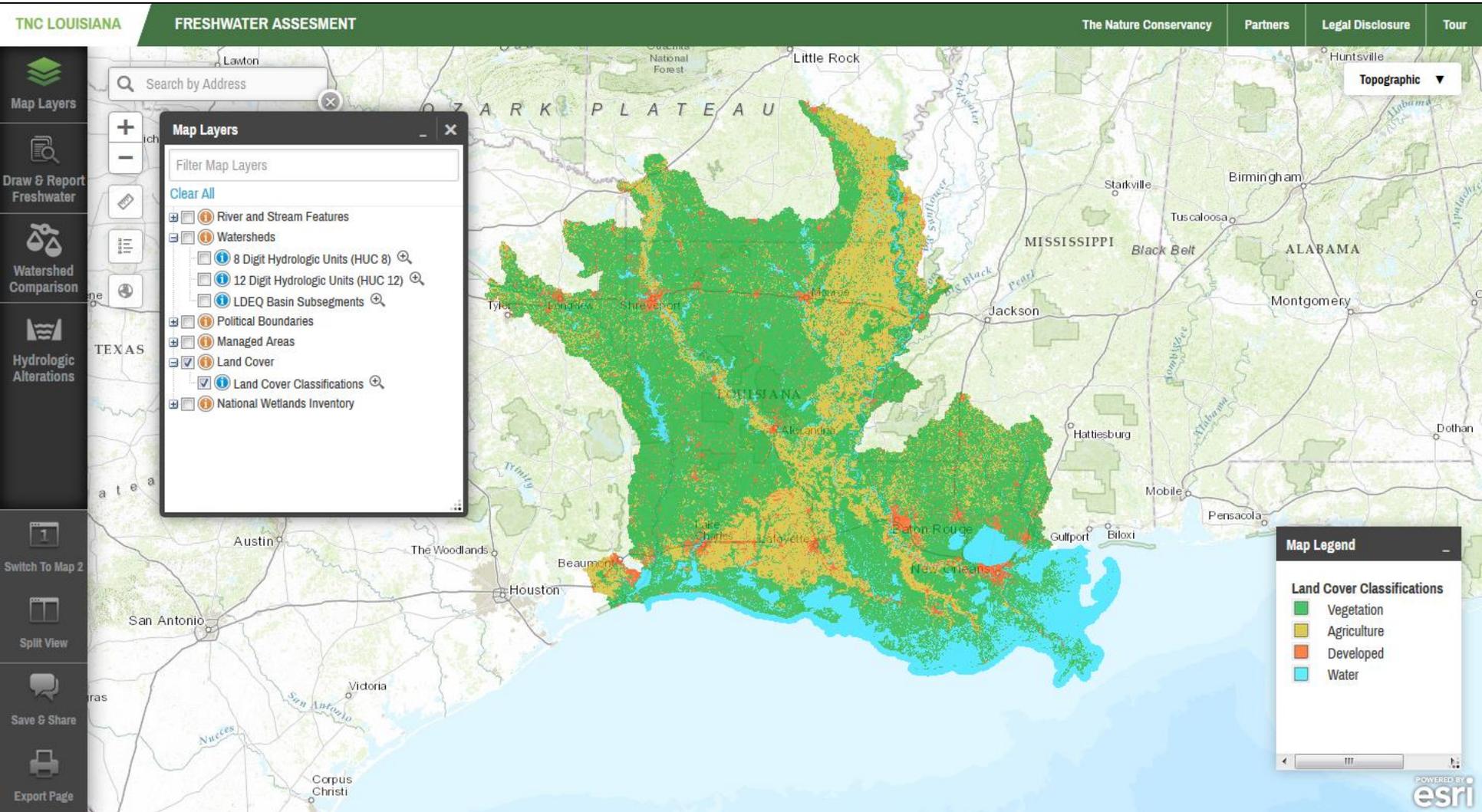


Groundwater

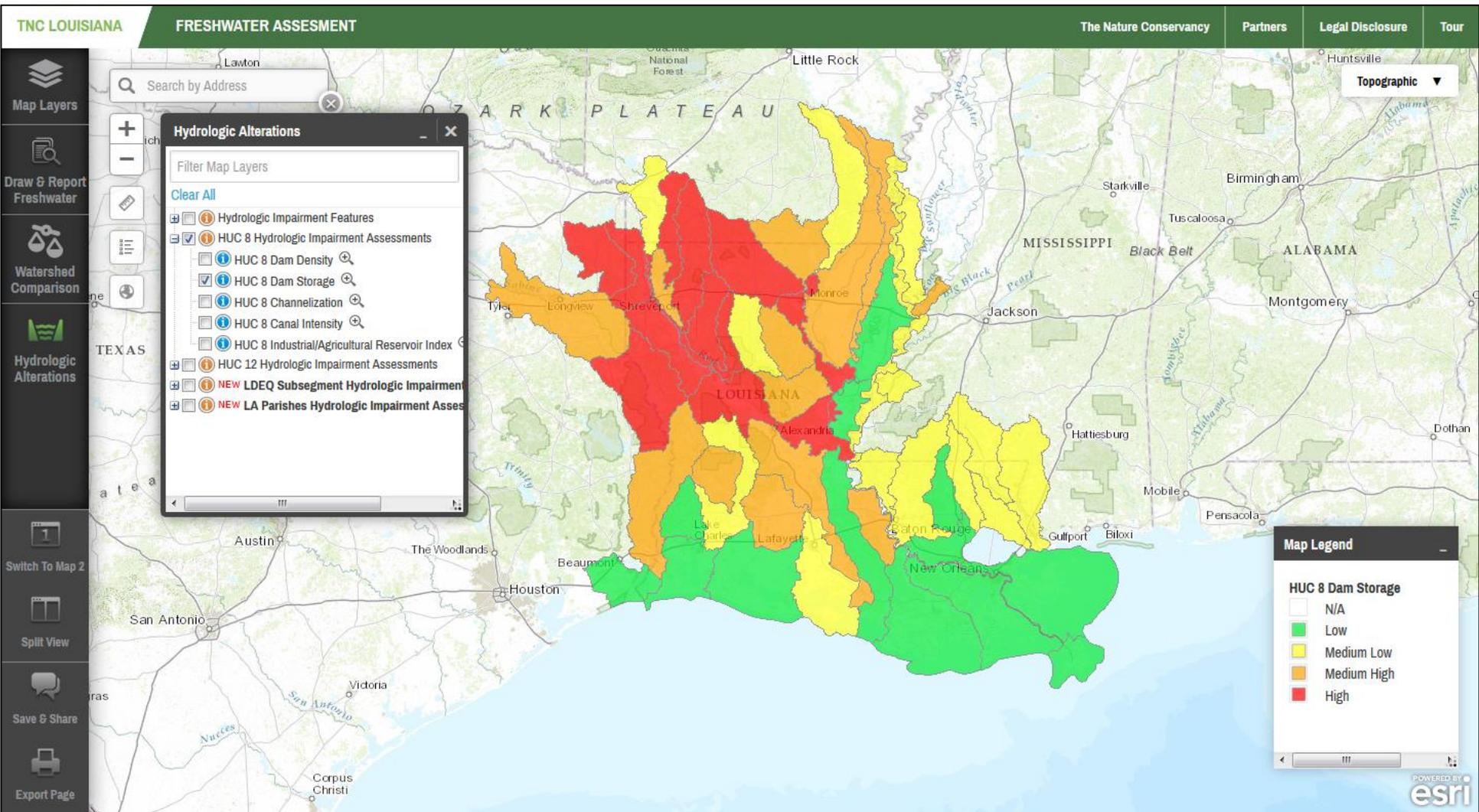


Coastal Connectivity

Display Big Data



Summarize Data



Compare Watersheds

TNC LOUISIANA FRESHWATER ASSESMENT The Nature Conservancy Partners Legal Disclosure Tour

Map Layers Draw & Report Freshwater Watershed Comparison Hydrologic Alterations

Search by Address

Imagery

Lower Red

Watershed Comparison Tools

Load a type of feature, then select up to 3 Watersheds to compare values from.

HUC 8

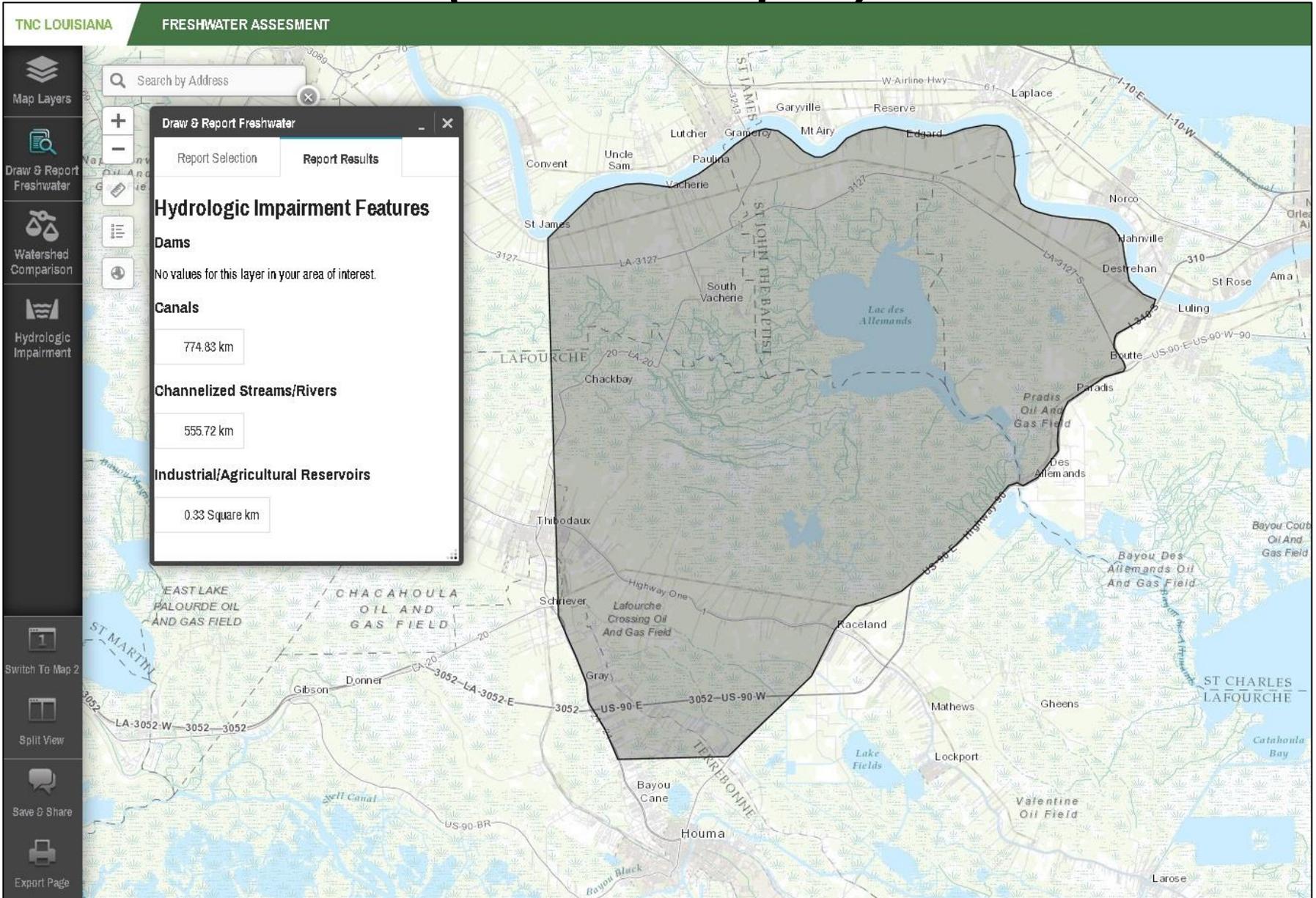
SUBBASIN	Bayou Teche	Little	Tensas
Dams/100 mi2	1.0294	1.7853	0
Dam Storage (mean depth ft)	0.145 ft	0.2368 ft	0 ft
Canal Ratio (length)	0.471	< 0.001	0.64
Channelization % (length)	8.53%	0.32%	11.82%
Reservoir % (Area x 100)	32.8%	10.04%	15.31%
Vegetative Cover % (area)	47.86%	87.12%	25.98%
Protected Land % (area)	9.87%	24.77%	19.26%

Switch To Map 2 Split View Save & Share Export Page

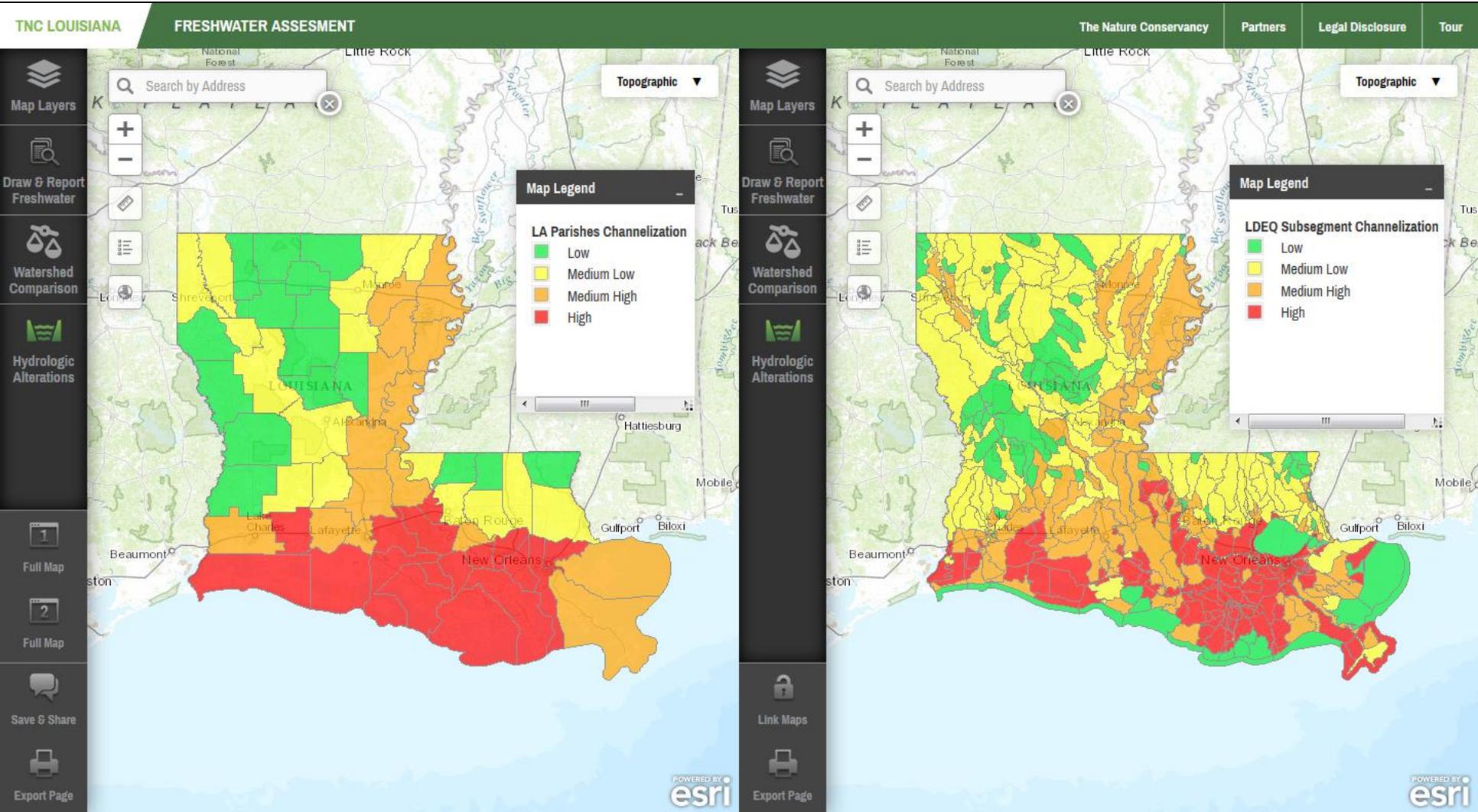
POWERED BY esri

Custom Analyses

(Draw and Report)



Compare Ideas and Discuss



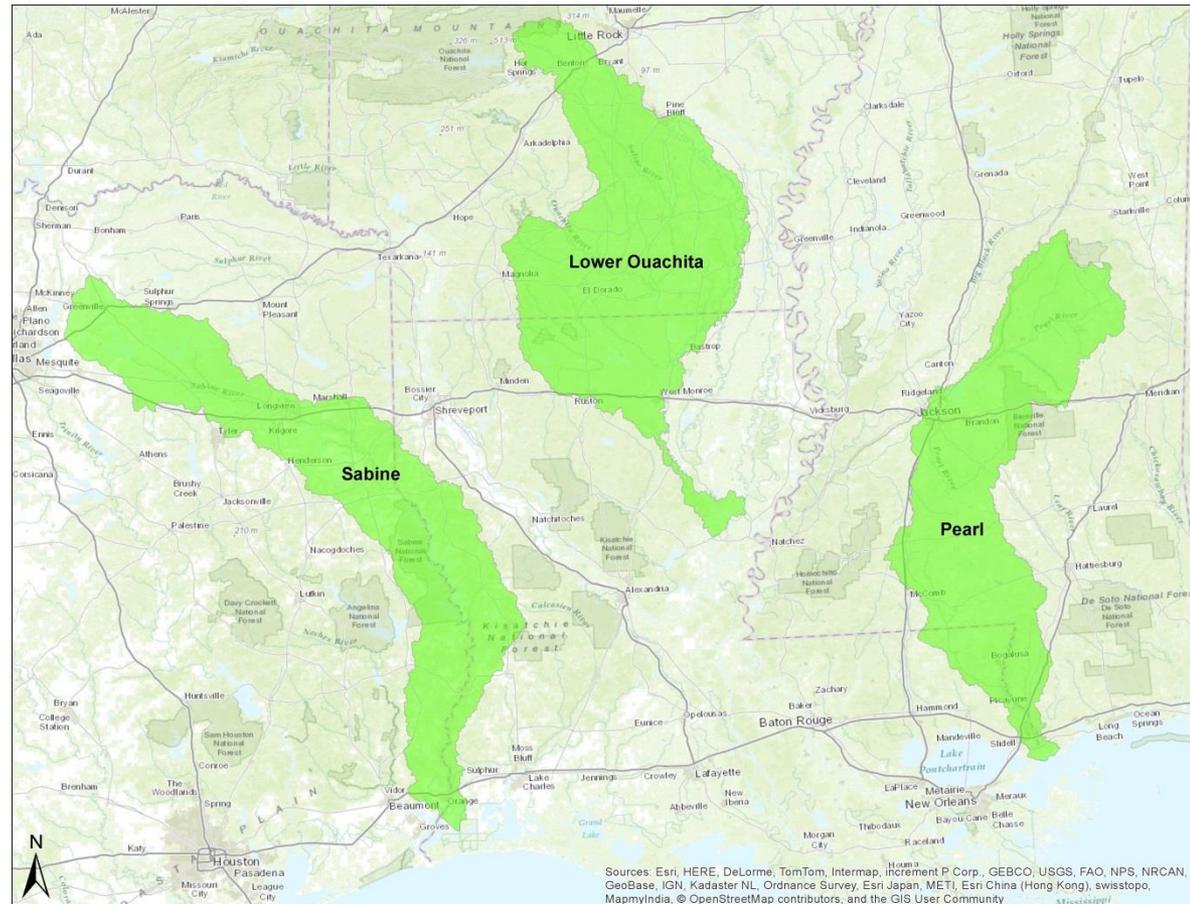
Apps



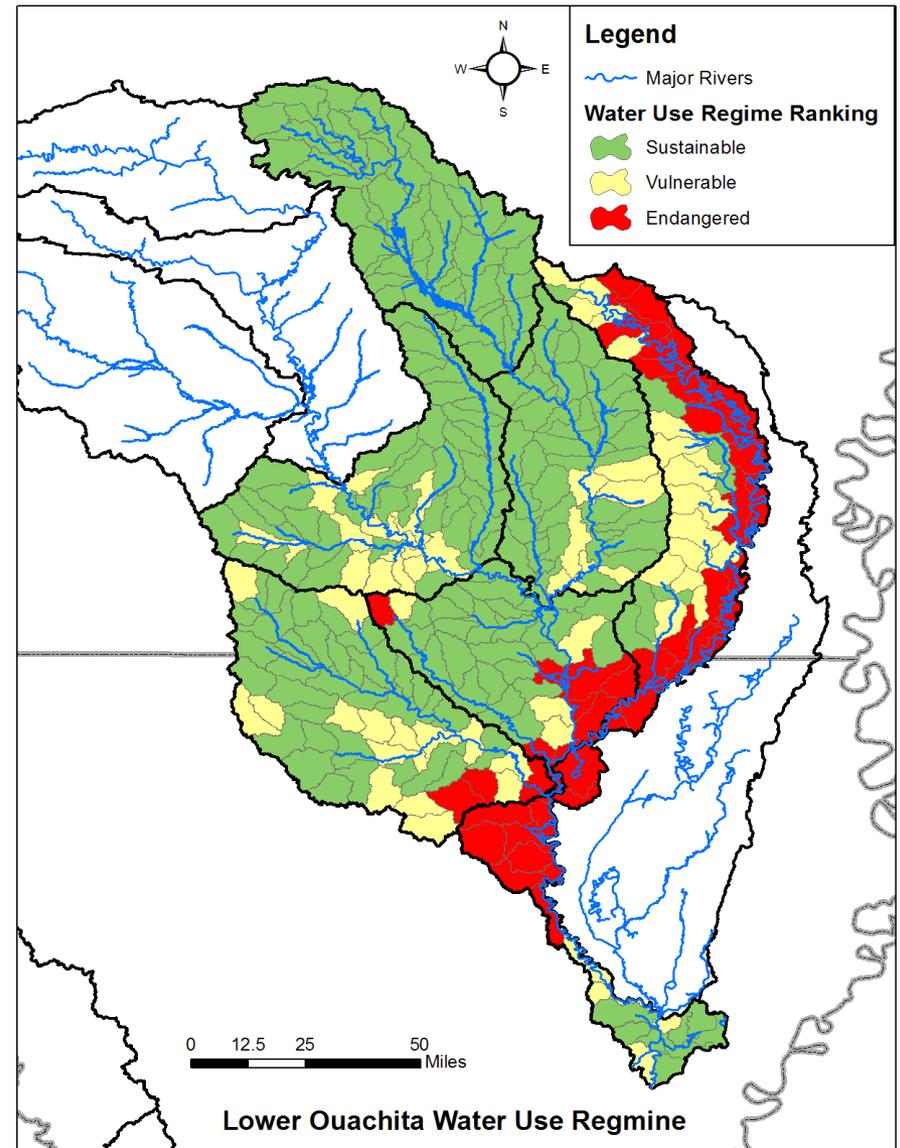
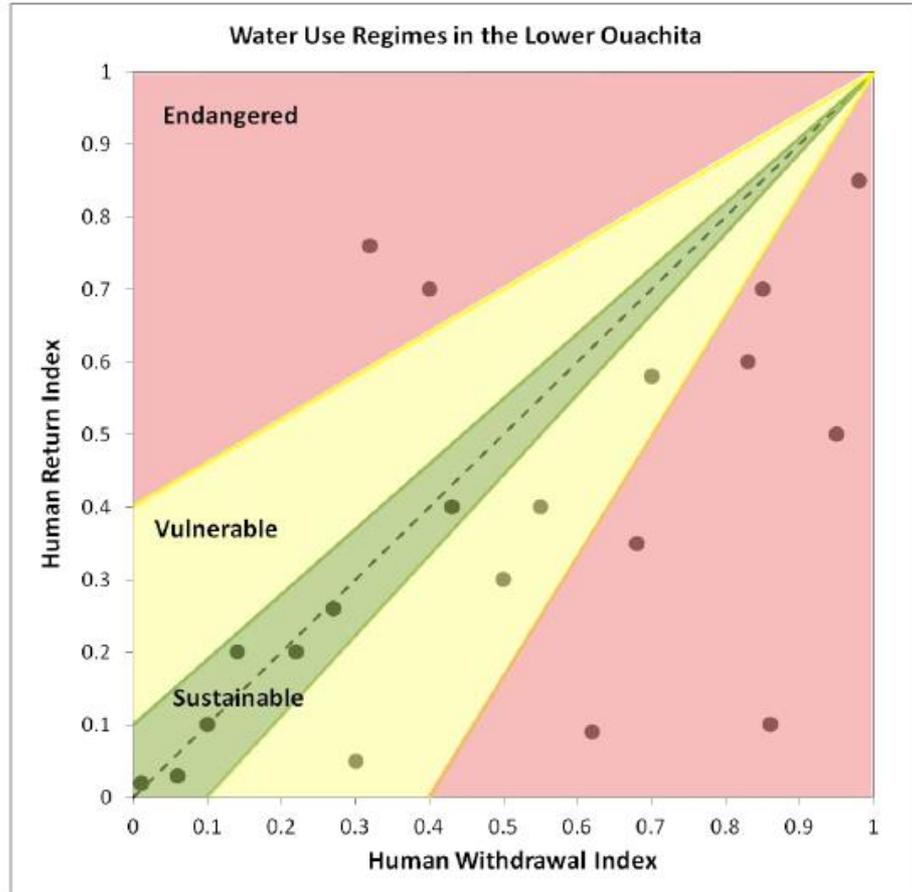


Flow-Based Products

- **Model and visualize at multiple scales.**
- **Surface/Groundwater Linkage – tested with Sparta Aquifer**
- **Calculate multiple flow metrics.**

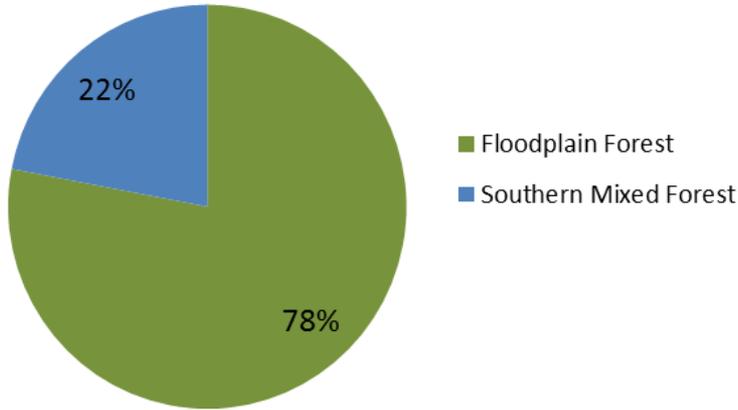


Water Use Intensity – Withdrawal and Returns

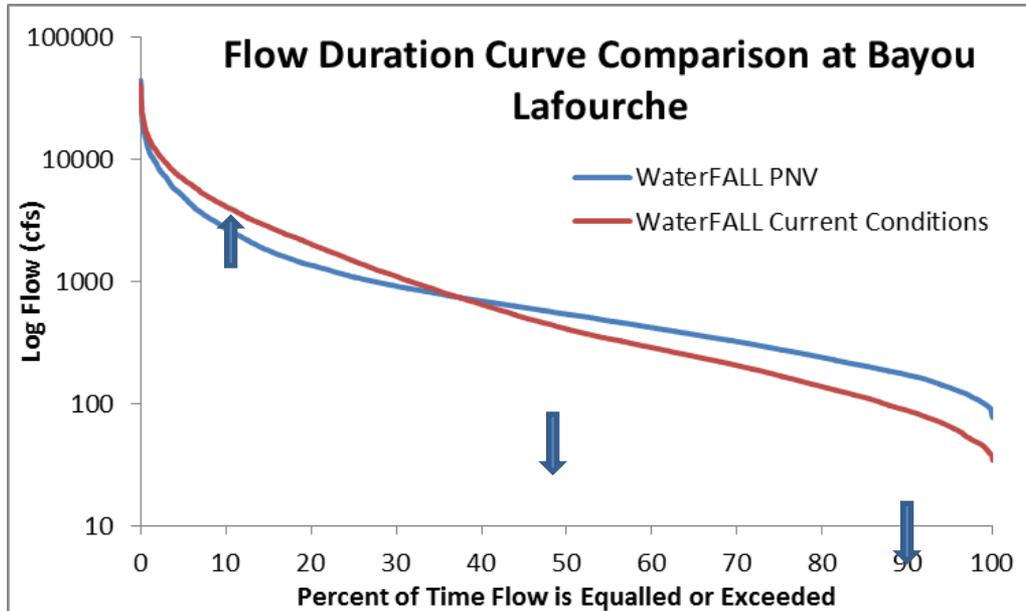
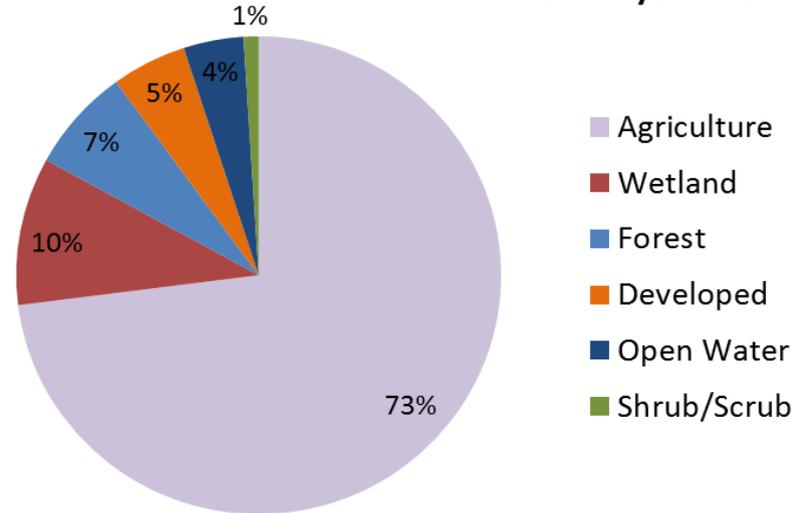


Land-Use Effects on Flow

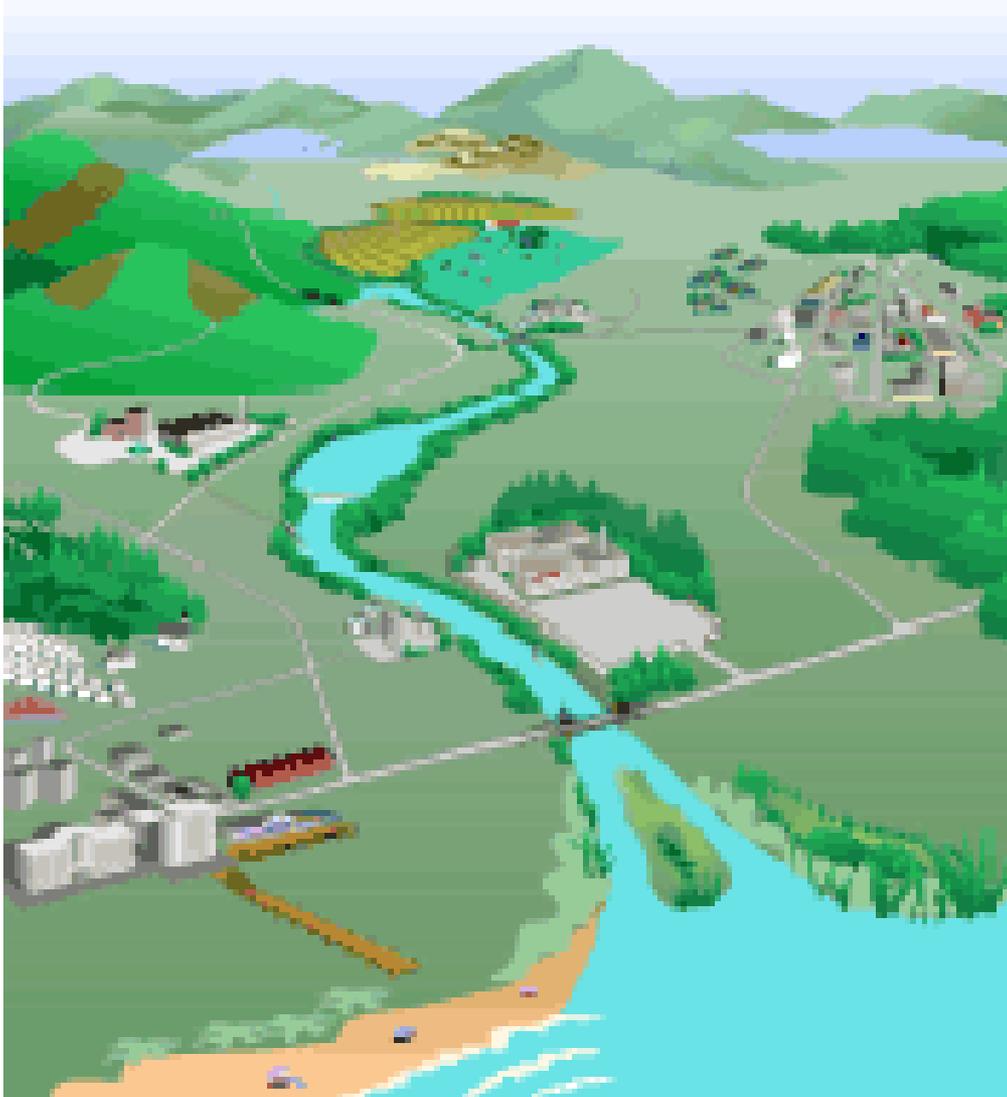
PNV Land Use at Bayou Lafourche



Current Land Use at Bayou Lafourche



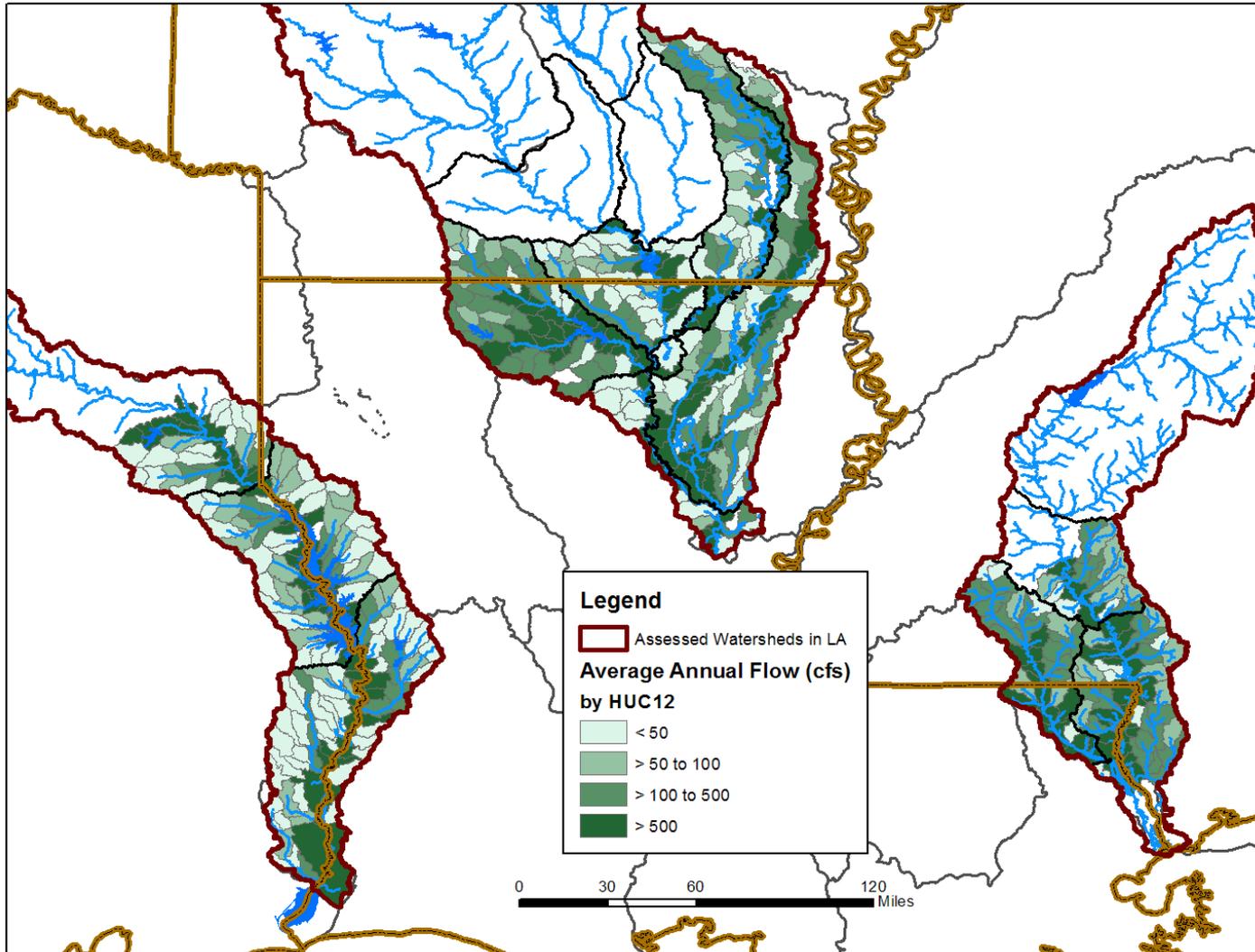
Water Budgets



How is water being used upstream?

Is there enough water left for needs downstream?

How much water will be available?



We can build one with you.



Natural Resources Conservation Service (NRCS)

- **Nutrient Management App.**
 - **View and interact with nutrient information.**
 - **Target Conservation Partnerships with Ag. Producers**



Timeline for Data and Apps in Development

- 1. Flow App. – On development site. Peer Review.***
- 2. Completion of Flow Modeling for Louisiana – July 2015***
- 3. Completion of Nutrient Management App. – Sept. 2015***
- 4. Completion of Coastal Connectivity App. – Late 2015***
- 5. Fish biodiversity App. – Late 2015***



Project Partners

<http://freshwaternetwork.org/>

<http://maps.freshwaternetwork.org/louisiana/#>

- TNC, Mississippi Chapter
- TNC, Global Marine Team
- TNC, Gulf of Mexico Program
- Research Triangle Institute, International
- Southern Illinois University
- National Science Foundation, IGERT Program
- Baton Rouge Area Foundation